

WHAT IS CLAIMED IS:

1. A method of detecting binding of a PAS domain with a foreign core ligand of the PAS domain, wherein the PAS domain is predetermined, prefolded in its native state, and comprises a hydrophobic core that has no NMR-apparent a priori formed ligand cavity, the method comprising the steps of:

detecting a first NMR spectrum of the PAS domain in the presence of a foreign ligand; and

comparing the first NMR spectrum with a second NMR spectrum of the PAS domain in the absence of the ligand to infer the presence the ligand specifically bound within the hydrophobic core of the PAS domain.

2. A method according to claim 1, the PAS domain is PAS kinase PAS A.